

RESPONSE UNDER 37 C.F.R. 1.116
U.S. Appln. No. 10/054,880

REMARKS

This Response, submitted in reply to the Office Action dated November 30, 2004, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-43 remain pending in the application. Claims 19-42 remain allowed, and claims 2-4, 8-10 and 14-16 remain allowable over the art of record but remain objected to for depending on rejected base claims. Claims 1, 5-7, 11-13, 17-18 and 43 remain rejected under 35 U.S.C. § 103 over the combination of Hickel and Sartor (both references are previously of record). Applicant respectfully submits the following arguments in traversal of the prior art rejections.

The Examiner essentially maintains the same rationale in rejecting independent claim 1, and further responds to the arguments previously submitted in the Amendment of September 10, 2004. The Examiner's rejection appears to acknowledge that the primary Hickel reference does not teach the optical compensation system for compensating for image distortion which is produced by said dielectric block when a predetermined incidence angle of light varies. The Examiner then cites the optical element 44 of Sartor to correct this deficiency. However, as the Examiner correctly notes, the optical compensation device of Sartor relates to correction of a viewing angle. Detailed Action, page 3, lines 5-8; page 4, lines 2-8. By contrast, the claim describes compensation for variation in an angle of incidence. The Examiner's rejection implies that correction for the view angle distortions would necessarily compensate for the incident angle variations. Applicant submits that this is not the case.

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Applicant notes that the present specification states (at pages 12-13):

According to investigations made by the inventors, the reason that distortion occurs in an image carried by totally reflected light in conventional surface-type sensors utilizing ATR is that the traveling angle of the totally reflected light traveling through the dielectric block differs from the traveling angle of the light incident on the detecting face of the photodetection means. Even if the angle of installation of the photodetection means is adjusted so that the image distortion is eliminated, an image on the detecting face of the photodetection means will be distorted if the angle of incidence of the measuring light varies. A variation in the angle of incidence always occurs when the angle of incidence of the measuring light is scanned, for example, when a substance having a different incidence angle condition for ART is measured.

Distortion may be corrected by adjusting an angle of installation of a photodetection means or placing an optical compensation system in the light path after the dielectric block. However, even if distortion is corrected by placing an optical compensation system, such as optical compensation means 44 cited in Sartor, in the light path after the dielectric block, an image on the detecting face of the photodetection means will be distorted, if the angle of the incidence of the measuring light varies.

The sensor of claim 1 is provided with an optical compensation system for compensating for image distortion that occurs when the incidence angle of a light beam with respect to the interface between the dielectric block and the thin film varies. The optical compensation system 44 of Sartor does not compensate for image distortion that occurs when the incidence angle of a light beam varies. The apparatus disclosed in Sartor is for imaging a finger, and therefore, there is no necessity to compensate for image distortion that occurs when the incidence angle of a light beam varies.

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To the extent that the rejection of claim 1 is improper, Applicant submits that claims 7 and 13 are also patentable based on analogous features. The remaining rejected claims are patentable based on their dependency.

With further regard to claim 43, this claim describes cross-sectional requirements for a second dielectric block comprising the optical compensation system, such that the cross-section is the same as the first dielectric block. The material of the second block also has the same refractive index as the first block. To the extent Sartor teaches any form of compensation system, the cross-sectional requirements and material requirements as claimed are not inherently or obviously disclosed. Therefore, claim 43 is patentable for this additional reason.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,

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